



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,049	11/13/2003	John J. Duigenan	GB920030046US1	3180
35525	7590	03/05/2009		
IBM CORP (YA) C/O YEE & ASSOCIATES PC P.O. BOX 802333 DALLAS, TX 75380			EXAMINER PHAN, TUANKHANH D	
			ART UNIT 2163	PAPER NUMBER
			NOTIFICATION DATE 03/05/2009	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptonotifs@yeeiplaw.com

Office Action Summary	Application No. 10/714,049	Applicant(s) DUIGENAN ET AL.	
	Examiner TUAN-KHANH PHAN	Art Unit 2163	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-6,8-12,14,16-18,20-22,24-28,30,32 and 33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,8-12,14,16-18,20-22,24-28,30,32 and 33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

The amendment, filed on 1/13/2009, has been entered and acknowledged by the Examiner. Cancellation of claims 3, 7, 13, 15, 19, 23, 29 and 31 has been entered. Claims 1-2, 4-6, 8-12, 14, 16-18, 20-22, 24-28, 30 and 32-33 are pending in the instant application.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 33 is rejected under 35 U.S.C. 101 because the claim, reciting “the computer program element comprising program code” the claim fails to fall within one of the four enumerated statutory categories of invention recited in 35 U.S.C. 101: process, machine, manufacture and composition of matter. The latter three categories define “thing” or “products,” while a “process” consists of a series of steps or acts to be performed.

A §101 process must (1) be tied to another statutory class such as a particular apparatus) or (2) transform underlying subject matter (such as an article or materials) to a different state of thing. If neither of these requirements is met by the claim, the method is not a patent eligible process under §101 and should be rejected as being directed to non-statutory subject matter.

An example of a method claim that would not qualify as a statutory process

Art Unit: 2163

would be a claim that recited purely mental steps. Thus, to qualify as a §101 statutory process, the claim should positively recite the other statutory class (the thing or product) to which it is tied, For example by identifying the apparatus that accomplishes the method steps, or positively recite the subject matter that is being transformed, for example by identifying the material that is being change to a different state.

Response to Arguments

Applicant's arguments with respect to claims 1-2, 4-6, 8-12, 14, 16-18, 20-22, 24-28, 30 and 32-33 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4-6, 8-12, 14, 16-18, 20-22, 24-28, 30 and 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg et al. (US Pat. 6,937,597), hereinafter referred as Rosenberg, in view of Kumar (US Pat. 6,269,080).

Regarding claims 1, 17 and 33, Rosenberg and in view of Kumar disclose multicast publish/subscribe messaging system comprising a broker and a plurality of subscribers (i.e. a server and a plurality of clients, abstract), the system comprising:

a first subscriber of the plurality of subscribers (i.e. a client of plurality of clients, col. 17, lines 39-49) including a liveness indicator for indicating liveness to the broker (i.e. **liveness indicator is an advertisement of active status or invitation when sending the request to the server**, col. 17, lines 39-46), the liveness indicator comprising:

informing means for informing the primary subscriber that the primary subscriber is responsible for periodically indicating liveness to the broker, wherein the indicating liveness to the broker is sent over a live connection (i.e. time T, col. 17, lines 60-62; period for requiring to send an indication back to the broker);

setting means, responsive to the primary subscriber detecting a first indication of liveness, for setting a timer (i.e. **random period time T**, col. 17, lines 60-62), wherein the primary subscriber does not send addition indication of liveness to the broker prior to expiry of the timer, and wherein the first indication of liveness indicates that the primary subscriber intends to send an indication of the primary subscriber's presence to the broker (i.e. **the first indication of active status when sending the request to the server**);

canceling means (i.e. cancel its own before time T expires, col. 17, lines 60-65), responsive to the primary subscriber detecting a second indication of liveness from another subscriber of the plurality of subscribers prior to expiry of the timer (i.e. **receiving response from another [second], cancel its own before time T expires**, col. 17, lines 60-65), for canceling the timer (i.e. **to cancel the response to the request included response time**, col. 17, lines 60-67); and

Art Unit: 2163

sending means responsive to expiry of the timer, for the primary subscriber to send a third indication of liveness to the broker (i.e. **after the amount of time T expired, server acknowledges the active status of the client which is the third indication of liveness**, col. 17, lines 60-63);

while Rosenberg discloses choosing a winner subscriber, Rosenberg does not explicitly disclose designating means for designating the first subscriber of the plurality of subscribers to register interest in a topic as a primary subscriber; however, in the same field of endeavor, Kumar discloses designating means for designating the first subscriber of the plurality of subscribers to register interest in a topic as a primary subscriber (i.e. selecting one as the suitable receiver in the network to receive the connection, abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made would have the teachings of determining a primary of subscriber(s) of Kumar to incorporate into the teaching of indication of liveness taught by Rosenberg to effectively allocate network channels and prioritize services as well as reduce network delays.

Regarding claims 2 and 18, Rosenberg and in view of Kumar disclose the system of claims 1 and 17, wherein the first sending means comprises: means for multicasting a claim that the subscriber proposes to send an indication of the subscriber's presence to the broker (i.e. client sends to the server as a multicast message, col. 17, lines 40-55; Rosenberg); and means for sending a presence indication to the broker (sending a message to the server, col. 17, lines 52-55).

Art Unit: 2163

Regarding claims 4 and 20, Rosenberg and in view of Kumar disclose the system of claims 1 and 17, wherein the canceling means for comprises: means for determining whether a desired number of subscribers of the plurality of subscribers have indicated liveness (i.e. **if more than one responses, it only consider the first one**, col. 17, lines 65-67 – col. 18, lines 1-5; Rosenberg); and that the broker is aware of the presence of at least one subscriber (i.e. the server knows at least there is one, col. 65-67; Rosenberg); and

means, responsive to determining that a desired number of subscribers of the plurality of subscribers have indicated liveness and that the broker is aware of the presence of at least one subscriber, for canceling the timer and starting a new timer (i.e. **to cancel the response to the request included response time**, col. 17, lines 60-67; Rosenberg).

Regarding claims 5 and 21, Rosenberg and in view of Kumar disclose the system of claims 4 and 20, further comprising: means for receiving and storing a max value, wherein the max value the desired number of subscribers (i.e. **small or large group alike with state storage and complexity**, col. 17, line 39; col. 18, lines 34-39).

Regarding claims 6 and 22, Rosenberg and in view of Kumar disclose the system of claims 1 and 17, wherein an active connection is maintained between the broker and at least one subscriber of the plurality of subscribers in the multicast publish/subscribe messaging system (col. 4, lines 55-67); the at least one subscriber of the plurality of subscribers further comprising: means for using the active connection to send an

Art Unit: 2163

indication of the subscriber's presence to the broker (i.e. **indication of active invitation and status by the client to the server**, col. 17, lines 45-50; Rosenberg).

Regarding claims 8 and 24, Rosenberg and in view of Kumar disclose the subscriber system of claims 1 and 17, wherein at least one of the first indication of liveness, the second indication of liveness and the third indication of liveness is piggybacked onto another message (i.e. **each request or response may contain one or more header fields which modify or more uniquely link the message is a form of piggybacked onto another message or another header**, abstract).

Regarding claims 9 and 25, Rosenberg and in view of Kumar disclose the system of claims 1 and 17, wherein at least one of the first indication of liveness, the second indication of liveness and the third indication of liveness is sent over one of: a unicast data protocol (UDP) connection (col. 4, line 3); and a transmission command protocol (TCP) connection and a point-to-point (col. 4, line 3).

Regarding claims 10 and 26, Rosenberg and in view of Kumar disclose the system of claims 1 and 17, further comprising: receiving means for receiving an indication from the broker that the broker is aware of the presence of at least one subscriber of the plurality of subscribers (col. 17, lines 65-67 – col. 18, lines 1-5; Rosenberg).

Regarding claim 11, see the discussion of claim 11 above.

Regarding claims 12 and 28, they are rejected for the same reasons as discussed in claim 11 above, see Kumar Figure 6.

Regarding claims 14 and 30, Rosenberg and Kumar disclose the system of claim 13, comprising: means, responsive to a failure of the primary subscriber, for designating a second subscriber of the plurality of subscribers whose indication of liveness is next received as a new primary subscriber, wherein the designation of the primary subscriber is changed from the first subscriber to the second subscriber (i.e. the process of connecting to an active receiver continues, abstract).

Regarding claims 16 and 32, Rosenberg and in view of Kumar disclose the system of claim 1, wherein the broker comprises comprising: means for listening in on a multicast channel, used by the plurality of subscribers, for receiving indications of liveness from any of said plurality of subscribers (col. 17, lines 60-67).

Regarding claim 26, Rosenberg and in view of Kumar disclose the method of claim 17, comprising: receiving an indication from the broker that the broker is aware of the presence of at least one subscriber of the plurality of subscribers (col. 17, lines 39-62; Rosenberg).

Regarding claim 27, they are rejected for the same reasons as discussed in claim 11 above, see Kumar Figure 6.

Regarding claim 31, see discussion of claim 15 above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TUAN-KHANH PHAN whose telephone number is (571)270-3047. The examiner can normally be reached on 4/5/9.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2163

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TKP

/Hung T Vy/

Primary Examiner, Art Unit 2163